

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:	)	Group Art Unit: To Be Assigned
	)	
BECKER	)	Examiner: To Be Assigned
	)	
Divisional application of:	)	Atty. Docket No. GP123-03.DV1
Application Serial No. 10/020,596	)	
	)	
Filed: November 12, 2003	)	
	)	
For: KIT FOR ENHANCING THE	)	
ASSOCIATION RATES OF	)	
POLYNUCLEOTIDES	)	

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97(b)(1)**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant brings to the Examiner's attention the references listed on the enclosed PTO/SB/08 forms (two copies of each) for consideration in connection with the examination of the above-identified application.

In accordance with 37 C.F.R. § 1.97(b)(1), this Information Disclosure Statement is being submitted within three months of the certified filing date of the instant application.

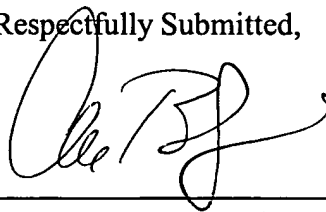
Applicant respectfully requests that the Examiner indicate consideration of the cited references by returning a copy of the enclosed PTO/SB/08 forms with the Examiner's initials or other appropriate marks.

IDS

Divisional Application of:  
Application Serial No. 10/020,596  
Atty. Docket No. GP123-03.DV1

No fee is believed due in connection with this Information Disclosure Statement. If Applicant is mistaken, please charge the amount due to Deposit Account No. 07-0835 in the name of Gen-Probe Incorporated.

Respectfully Submitted,



Date: November 12, 2003

By:

Charles B. Cappellari  
Registration Number 40,937  
Attorney for Applicants

GEN-PROBE INCORPORATED  
Patent Department  
10210 Genetic Center Drive  
San Diego, California 92121  
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**(Use as many sheets as necessary)**

GP123-03.DV1
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U. S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

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Signature

Date  
Considered

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Page 2 of 8

Substitute for form 1449A/PTO

*(use as many sheets as necessary)*

Sheet

1

of

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**Complete**.....

**Application Number**

**10/020,596**

Filing Date

**December 7, 2001**

**First Named Inventor**

**BECKER**

Group Art Unit

1634

Examiner Name

Chakrabarti, A.

Attorney Docket Number

GP123-02.UT

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Examiner  
Signature

Date  
Considered

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Compleat if Known</b>	
				Application Number	10/020,596
				Filing Date	December 7, 2001
				First Named Inventor	BECKER
				Art Unit	1634
				Examiner Name	Chakrabarti, A.
Sheet	2	of	2	Attorney Docket Number	GP123-02.UT

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		MAJLESSI et al., "Advantages of 2'-O-methyl oligoribonucleotide probes for detecting RNA targets", Nucleic Acids Research, 1998, 26(9):2224-2229	
		MARUYAMA et al., "Characterization of Interpolyelectrolyte Complexes between Double-Stranded DNA and Polylysine Comb-Type Copolymers Having Hydrophilic Side Chains", Bioconjugate Chem., 1998, 9:292-299	
		TYAGI et al., "Molecular Beacons: Probes that Fluoresce upon Hybridization", Nature Biotechnology, 1996, 14:303-308	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

### Complete if Known

Application Number	10/020,596
Filing Date	December 7, 2001
First Named Inventor	BECKER
Art Unit	1634
Examiner Name	Chakrabarti, A.
Attorney Docket Number	GP123-02.UT

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 4,834,854	05-30-1989	Sugihara et al.	
		US- 5,747,254-A	05-05-1998	Pontius	
		US- 6,017,700-A	01-25-2000	Horn et al.	
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### FOREIGN PATENT DOCUMENTS

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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		WO 95/06056 A1	03-02-1995	University of Medicine & Dentistry of New Jersey		
		WO 97/43450 A1	11-20-1997	Affymetrix, Inc.		
		WO 00/72016 A1	11-30-2000	Caliper Technologies Corp.		
		WO 03018841 A	06-03-2003	Circle for the Promotion of Science & Engineering		*

\*English Language Abstract Attached

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Application Number	10/020,596
Filing Date	December 7, 2001
First Named Inventor	BECKER
Group Art Unit	1648
Examiner Name	Hill, M.
Attorney Docket Number	GP123-02.UT

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Date	
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO.		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/020,596
		Filing Date	December 7, 2001
		First Named Inventor	BECKER
		Group Art Unit	1648
		Examiner Name	Hill, M.
		Attorney Docket Number	GP123-02.UT
Sheet	2	of	4

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>2</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		ASAYAMA et al., "Design of Comb-Type Polyamine Copolymers for a Novel pH-Sensitive DNA Carrier", Bioconjug Chem, 1997 Nov-Dec;8(6):833-8, American Chemical Society, US	
		BLOOMFIELD, "Condensation of DNA by Multivalent Cations: Considerations on Mechanism", Biopolymers, 1991 Nov;31(13):1471-81, John Wiley & Sons Incorporated, US	
		BLOOMFIELD, "DNA condensation", Curr Opin Struct Biol, 1996 Jun;6(3):334-41, Current Biology Ltd., GB	
		FERDOUS et al., "Comb-Type Copolymer: Stabilization of Triplex DNA and Possible Application in Antigene Strategy", J Pharm Sci, 1998 Nov;87(11):1400-5, American Pharmaceutical Association, US	
		FERDOUS et al., "Inhibition of Sequence-Specific Protein-DNA Interaction and Restriction Endonuclease Cleavage via Triplex Stabilization by Poly(L-lysine)-graft-dextran Copolymer", Biomacromolecules, 2000 Summer;1(2):186-93, American Chemical Society, US	
		FERDOUS et al., "Mechanism of Intermolecular Purine-Purine-Pyrimidine Triple Helix Stabilization by Comb-Type Polylysine Graft Copolymer at Physiologic Potassium Concentration", Bioconjug Chem, 2000 Jul-Aug;11(4):520-6, American Chemical Society, US	
		FERDOUS et al., "Poly(L-lysine)-graft-dextran copolymer: amazing effects on triplex stabilization under physiological pH and ionic conditions (in vitro)", Nucleic Acids Res, 1998 Sep 1;26(17):3949-54, Oxford University Press, GB	
		FERDOUS et al., "Poly(L-lysine)-graft-dextran copolymer is a novel stabilizer of triplex DNA(II): potassium-insensitive triplex formation", Nucleic Acids Symp Ser, 1997;37:301-2, Oxford University Press, GB	
		FERDOUS et al., "Relative Effects of Graft Copolymer and Polyamines on Triplex Stabilization Under Physiological Conditions", Nucleosides Nucleotides, 1999 Jun-Jul;18(6-7):1651-3, Marcel Dekker Incorporated, US	
		KIM et al., "Acceleration of DNA strand exchange by polycation comb-type copolymer", Nucleic Acids Symp Ser, 1999;42:139-40, Oxford University Press, GB	
		KIM et al., "Comb-Type Cationic Copolymer Expedites DNA Strand Exchange while Stabilizing DNA Duplex", Chem Eur J, 2001 Jan 5;7(1):176-80, Wiley-VCH Verlag GmbH, DE	
		LUO et al., "Synthetic DNA delivery systems", Nat Biotechnol, 2000 Jan;18(1):33-7, Nature America Incorporated, US	
		MAJLESSI et al., "Advantages of 2'-O-methyl oligoribonucleotide probes for detecting RNA targets", Nucleic Acids Res, 1998 May 1;26(9):2224-9, Oxford University Press, GB	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			Application Number	10/020,596	
			Filing Date	December 7, 2001	
			First Named Inventor	BECKER	
			Group Art Unit	1648	
			Examiner Name	Hill, M.	
Sheet	3	of	4	Attorney Docket Number	GP123-02.UT

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		MARUYAMA et al., "Characterization of Interpolyelectrolyte Complexes between Double-Stranded DNA and Polylysine Comb-Type Copolymers Having Hydrophilic Side Chains", Bioconjug Chem, 1998 Mar-Apr;9(2):292-9, American Chemical Society, US	
		MARUYAMA et al., "Comb-Type Copolymers for Controlled DNA Delivery", Nucleosides Nucleotides, 1999 Jun-Jul;18(6-7):1681-2, Marcel Dekker Incorporated, US	
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		MARUYAMA et al., "Nanoparticle DNA Carrier with Poly(L-lysine) Grafted Polysaccharide Copolymer and Poly(D,L-lactic acid)", Bioconjug Chem, 1997 Sep-Oct;8(5):735-42, American Chemical Society, US	
		MARUYAMA et al., "Poly(L-lysine)-graft-dextran copolymer is a novel stabilizer of triplex DNA (I): stabilization of poly(dA).2poly(dT) triplex", Nucleic Acids Symp Ser, 1997;37:225-6, Oxford University Press, GB	
		MARUYAMA et al., "Preparation and evaluation of ODN conjugates with polycation comb-type copolymer", Nucleic Acids Symp Ser, 1999;42:97-8, Oxford University Press, GB	
		PORSCHKE, "Nature of Protamine-DNA Complexes A Special Type of Ligand Binding Co-operativity", J Mol Biol, 1991 Nov 20;222(2):423-33, Academic Press Limited, GB	
		RENZ et al., "A colorimetric method for DNA hybridization", Nucleic Acids Res, 1984 Apr 25; 12(8):3435-44, Oxford University Press, GB	
		SIKORAV, "Complementary Recognition in Condensed DNA: Accelerated DNA Renaturation", J Mol Biol, 1991 Dec 20;222(4):1085-108, Academic Press Limited, GB	
		TORIGOE et al., "Poly(L-lysine)-graft-dextran Copolymer Promotes Pyrimidine Motif Triplex DNA Formation at Physiological pH", J Biol Chem, 1999 Mar 5;274(10):6161-7, American Society for Biochemistry and Molecular Biology, US	
		TORIGOE et al., "Promotion mechanism of triplex DNA formation by comb-type polycations: Thermodynamic analyses of sequence specificity and ionic strength dependence", Nucleic Acids Symp Ser, 1999;42:137-8, Oxford University Press, GB	
		TRUBETSKOY et al., "Layer-by-layer deposition of oppositely charged polyelectrolytes on the surface of condensed DNA particles", Nucleic Acids Res, 1999 Aug 1;27(15):3090-5, Oxford University Press, GB	
		WAHL et al., "Efficient transfer of large DNA fragments from agarose gels to diazobenzoyloxymethyl-paper and rapid hybridization by using dextran sulfate", Proc Natl Acad Sci USA, 1979 Aug;76(8):3683-7, National Academy Press, US	

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Citations for New Divisional of Serial  
No. 10/020,596  
Attorney Docket No. GP123-03.DV1  
Page 8 of 8

Page 8 of 8

**Compl. te.:**

<b>Application Number</b>	<b>10/020,596</b>
<b>Filing Date</b>	<b>December 7, 2001</b>
<b>First Named Inventor</b>	<b>BECKER</b>
<b>Group Art Unit</b>	<b>1648</b>
<b>Examiner Name</b>	<b>Hill, M.</b>
<b>Attorney Docket Number</b>	<b>GP123-02.UT</b>

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Sheet	4	of	4
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